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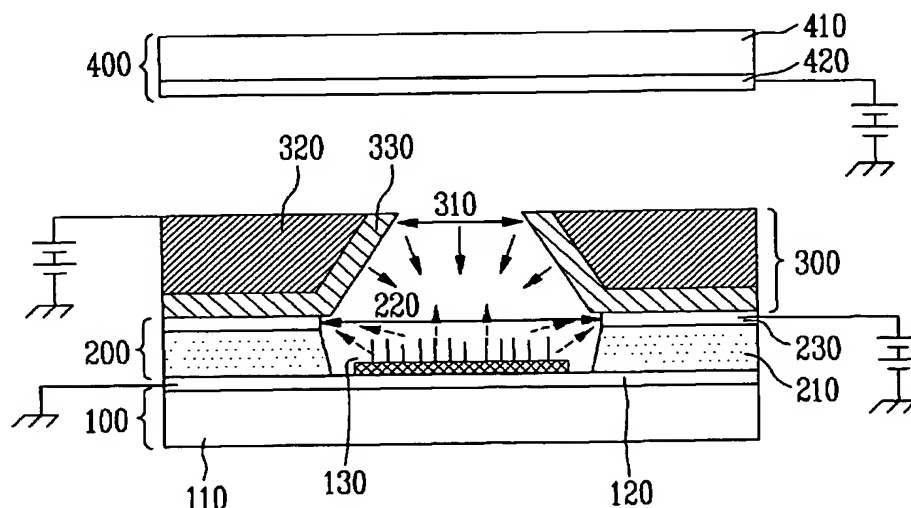
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[Continued on next page]

(54) Title: FIELD EMISSION DEVICE AND FIELD EMISSION DISPLAY DEVICE USING THE SAME



(57) Abstract: Provided are a field emission device and a field emission display device using the same. The field emission device includes a cathode portion having a substrate, a cathode electrode formed on the substrate, and a field emitter connected to the cathode electrode; a field emission-suppressing gate portion formed on the cathode portion around the field emitter and surrounding the field emitter; and a field emission-inducing gate portion having a metal mesh with at least one penetrating hole, and a dielectric layer formed on at least a part of the metal mesh, wherein the field emission-suppressing gate portion suppresses electrons from being emitted from the field emitter, and the field emission-inducing gate portion induces electrons to be emitted from the field emitter. According to this configuration, the conventional problems of the field emission device including a gate leakage current, electron emission caused by an anode voltage, electron beam divergence can be significantly improved.



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